OIPE JC177
JUL 14 2004
PATENT & TRADEMARK OFFICE

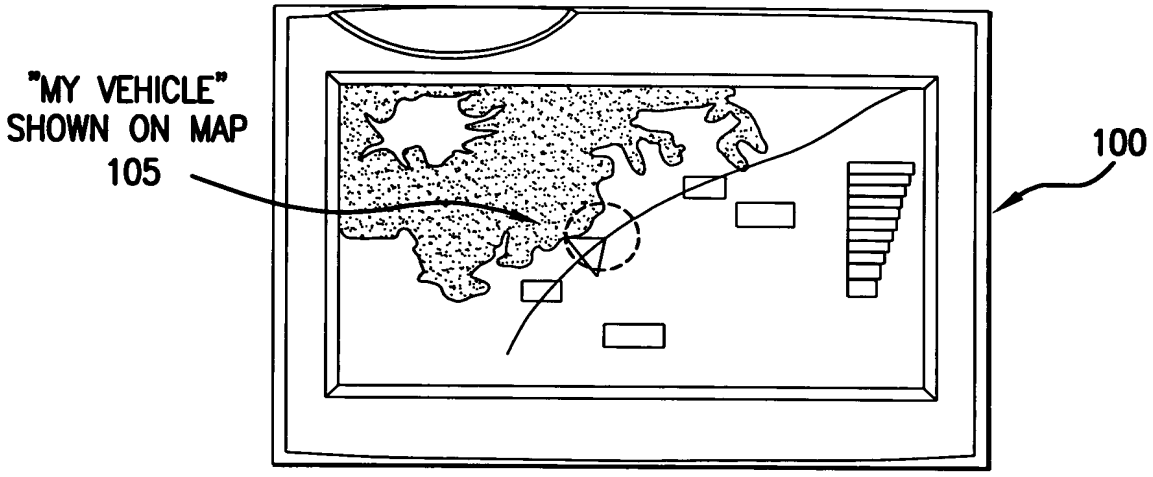

FIG. 1

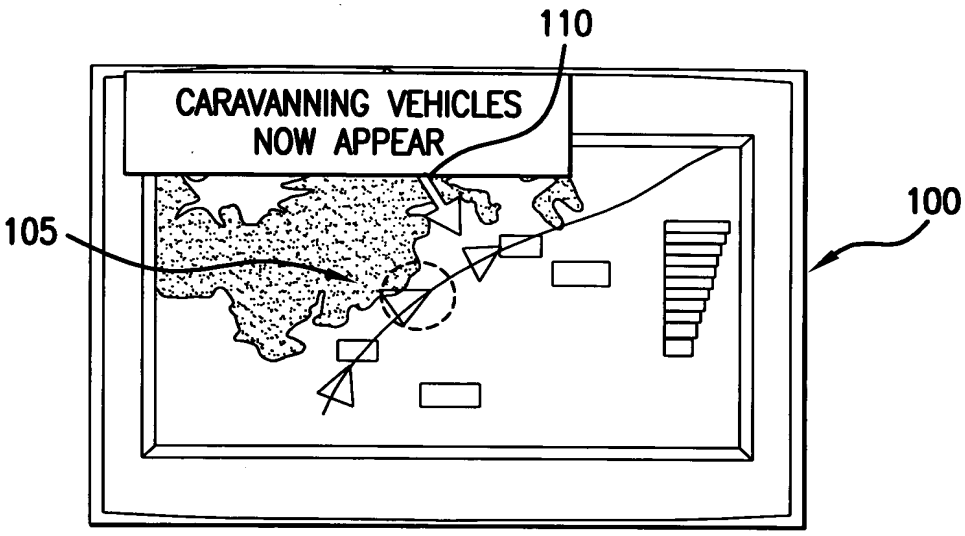

FIG.2

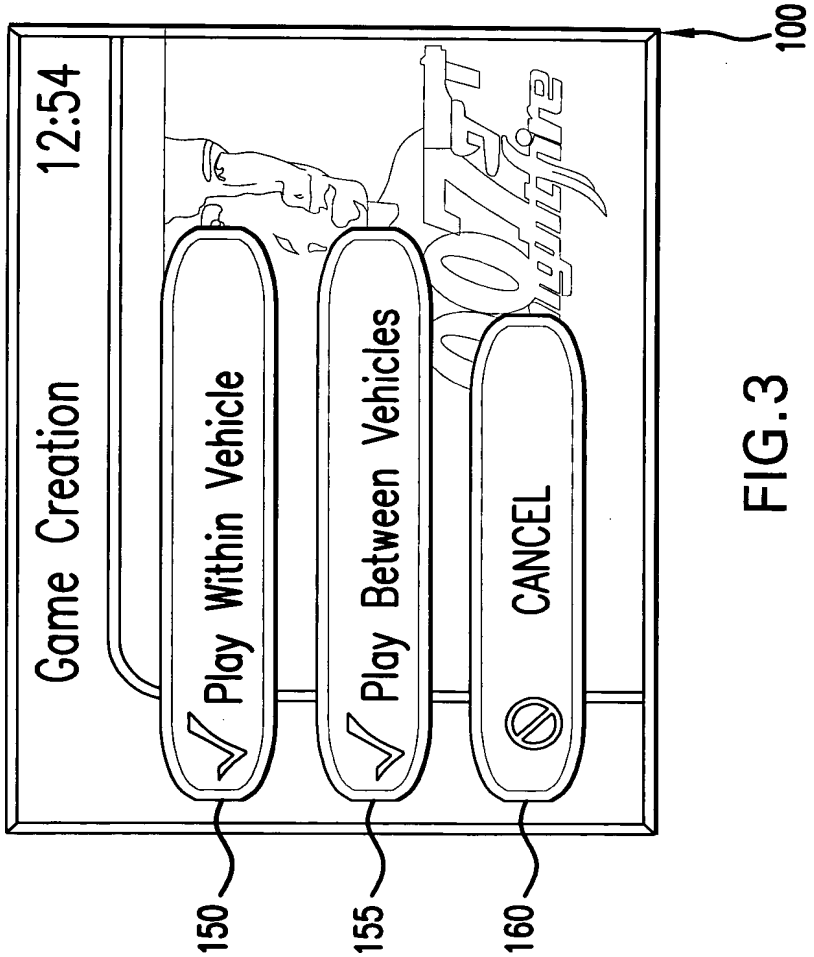
Game Creation
12:54
Play Within Vehicle
Play Between Vehicles
CANCEL
100
150
155
160

FIG.3

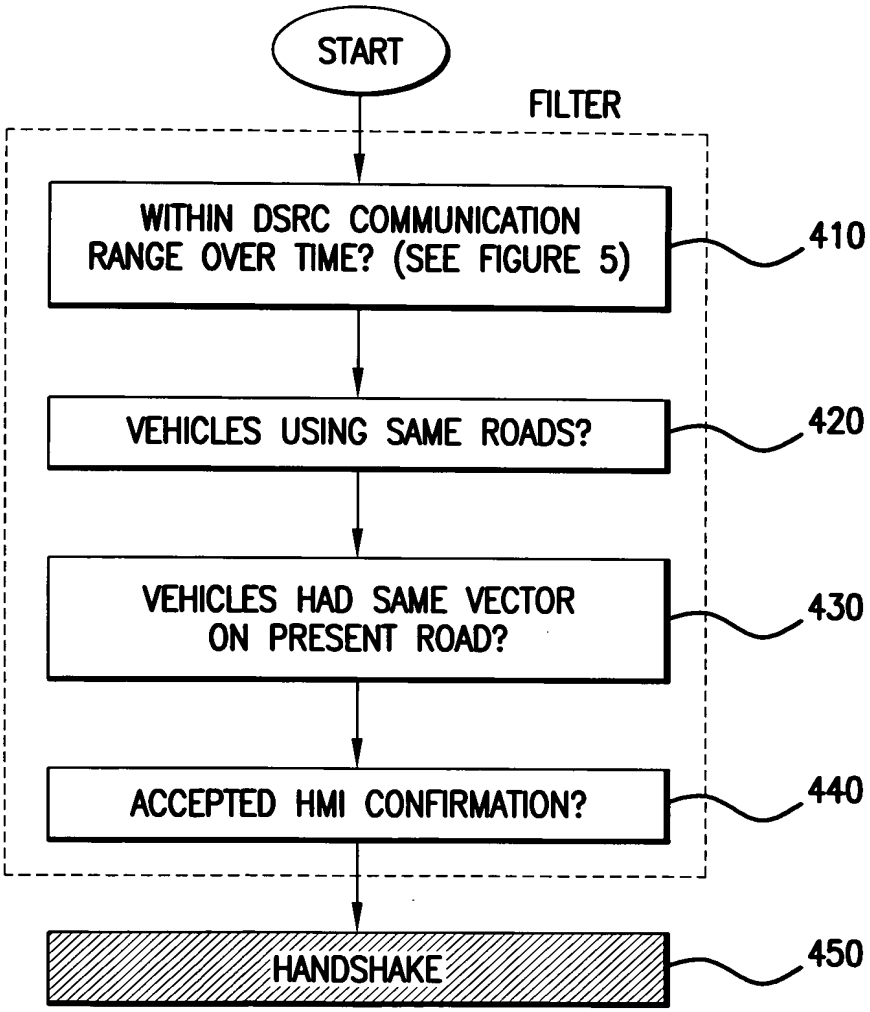
START
FILTER
WITHIN DSRC COMMUNICATION RANGE OVER TIME? (SEE FIGURE 5)
410
VEHICLES USING SAME ROADS?
420
VEHICLES HAD SAME VECTOR ON PRESENT ROAD?
430
ACCEPTED HMI CONFIRMATION?
440
HANDSHAKE
450

FIG.4

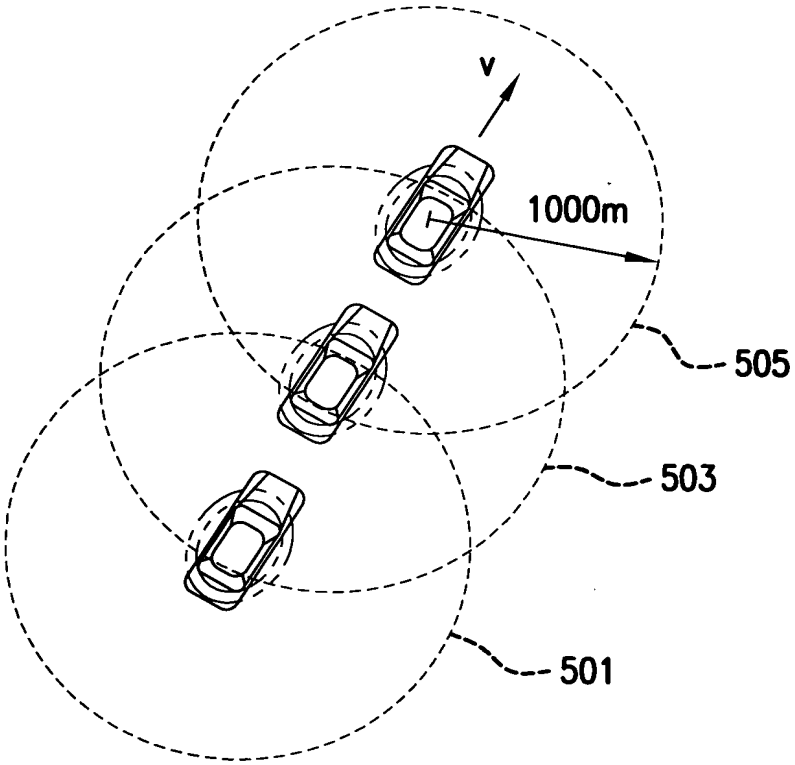

FIG.5

600

ID's REC'D	CURRENT ROAD SEG.	PREVIOUS ROAD SEG.	NEXT PREV. ROAD SEG.
1	ID#FDS45S	ID#4521DF	ID#DFQB5T
2	ID#E2BV7Q	ID#BSRESN	ID#N2SD3A
3	ID#PQKR44	ID#ASFE4D	ID#HJZD33
4	ID#MSZ93D		ID#NGSD3Z
5	ID#1JDLA5		ID#ASFE4D
6	ID#9DJSKAI		ID#AAA31J
7	ID#SFAB2S		ID#KEOW81
8	ID#ASFE4D		
9	ID#LAIY1L		
10	ID#BSRESN		
11	ID#586FA5		

FIG.6

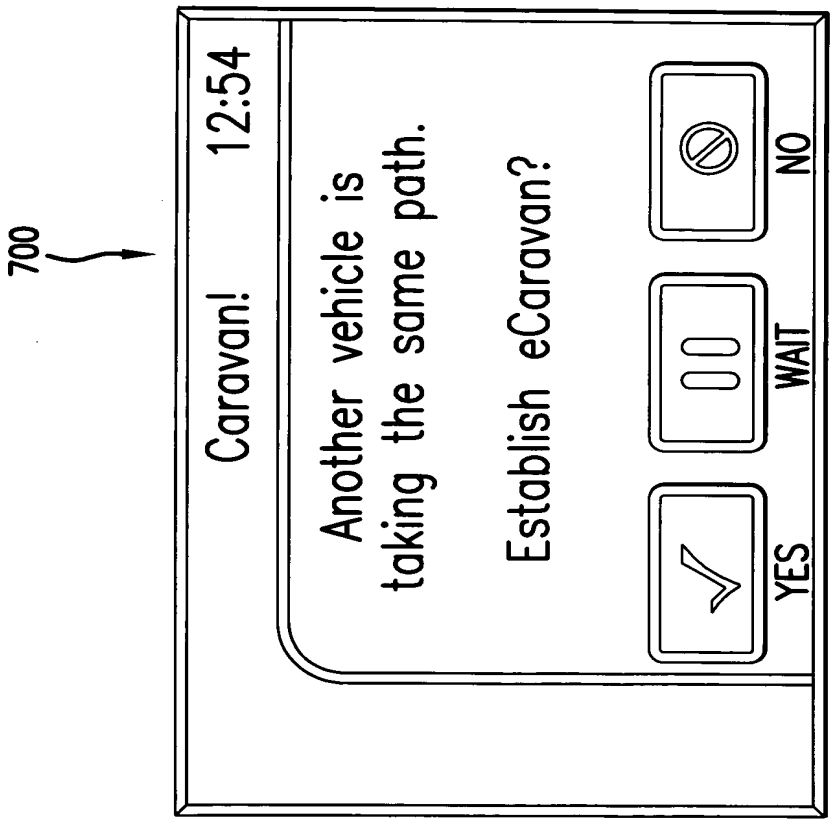
700
Caravan!
12:54
Another vehicle is taking the same path.
Establish eCaravan?
YES
WAIT
NO

FIG. 7

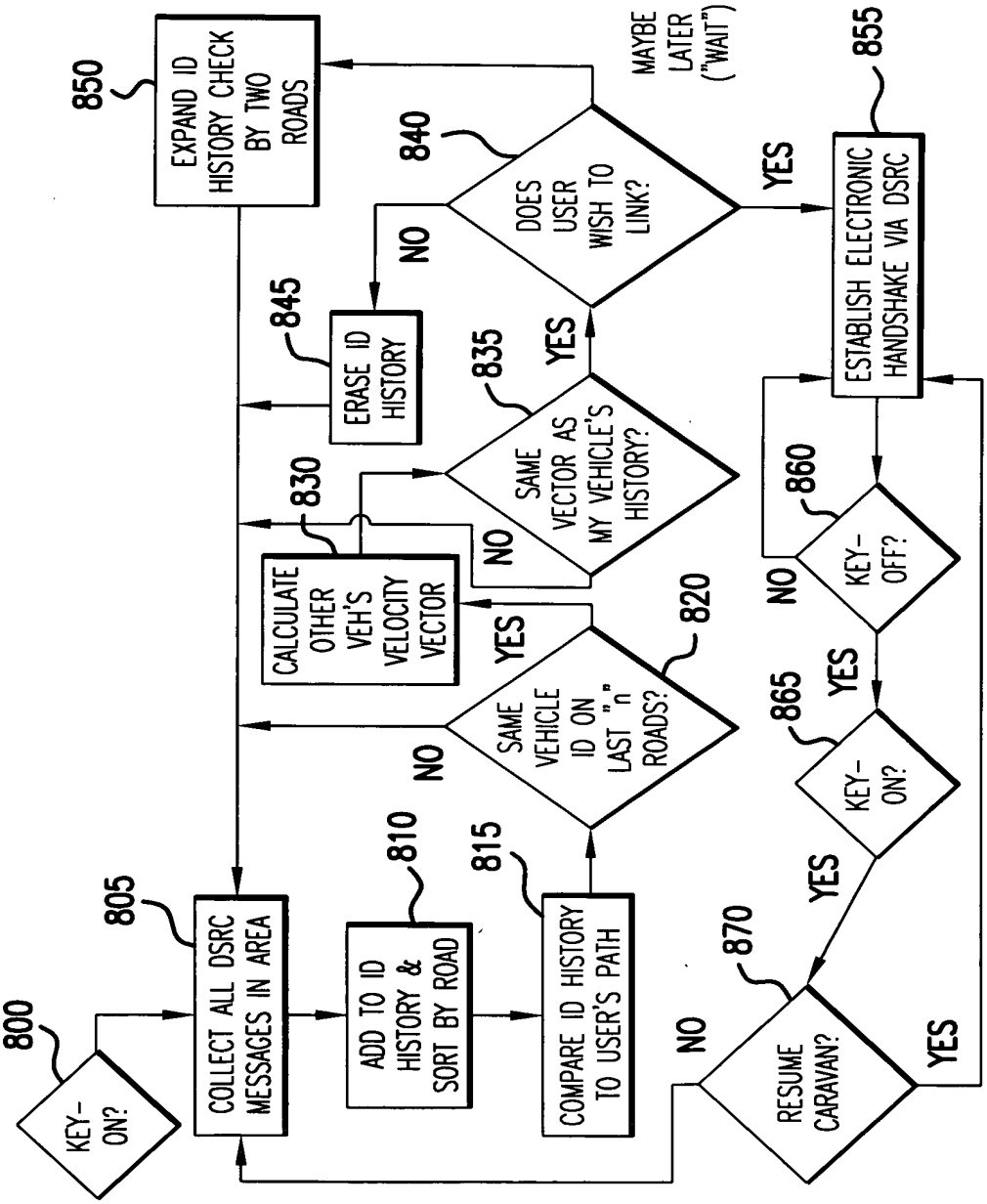
800
KEY-ON?
805
COLLECT ALL DSRC MESSAGES IN AREA
810
ADD TO ID HISTORY & SORT BY ROAD
815
COMPARE ID HISTORY TO USER'S PATH
820
SAME VEHICLE ID ON LAST "n" ROADS?
NO
YES
830
CALCULATE OTHER VEH'S VELOCITY VECTOR
835
SAME VECTOR AS MY VEHICLE'S HISTORY?
NO
YES
840
DOES USER WISH TO LINK?
NO
YES
845
ERASE ID HISTORY
850
EXPAND ID HISTORY CHECK BY TWO ROADS
MAYBE LATER ("WAIT")
855
ESTABLISH ELECTRONIC HANDSHAKE VIA DSRC
860
KEY-OFF?
NO
YES
865
KEY-ON?
YES
870
RESUME CARAVAN?
NO
YES

FIG.8

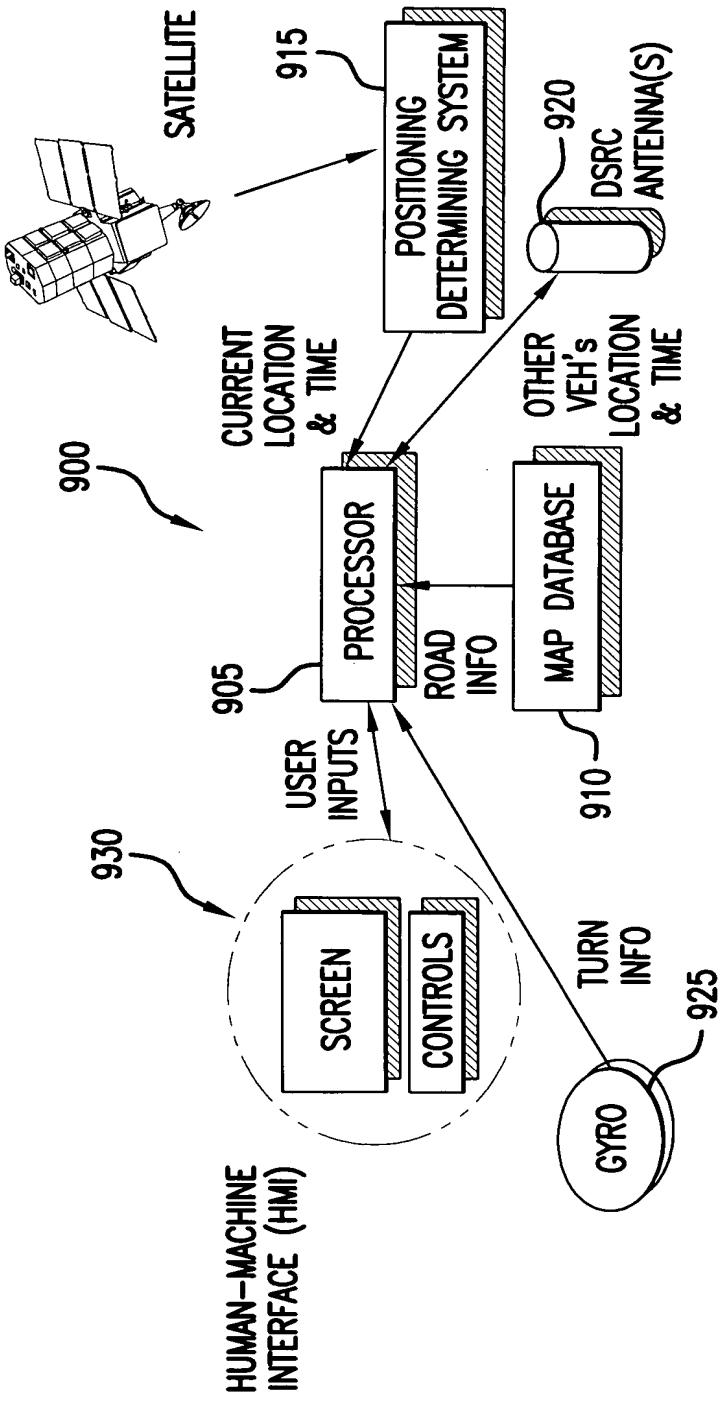
SATELLITE
915
POSITIONING DETERMINING SYSTEM
920
DSRC ANTENNA(S)
CURRENT LOCATION & TIME
OTHER VEH's LOCATION & TIME
900
PROCESSOR
905
ROAD INFO
MAP DATABASE
910
USER INPUTS
930
SCREEN
CONTROLS
TURN INFO
925
GYRO
HUMAN-MACHINE INTERFACE (HMI)

FIG.9

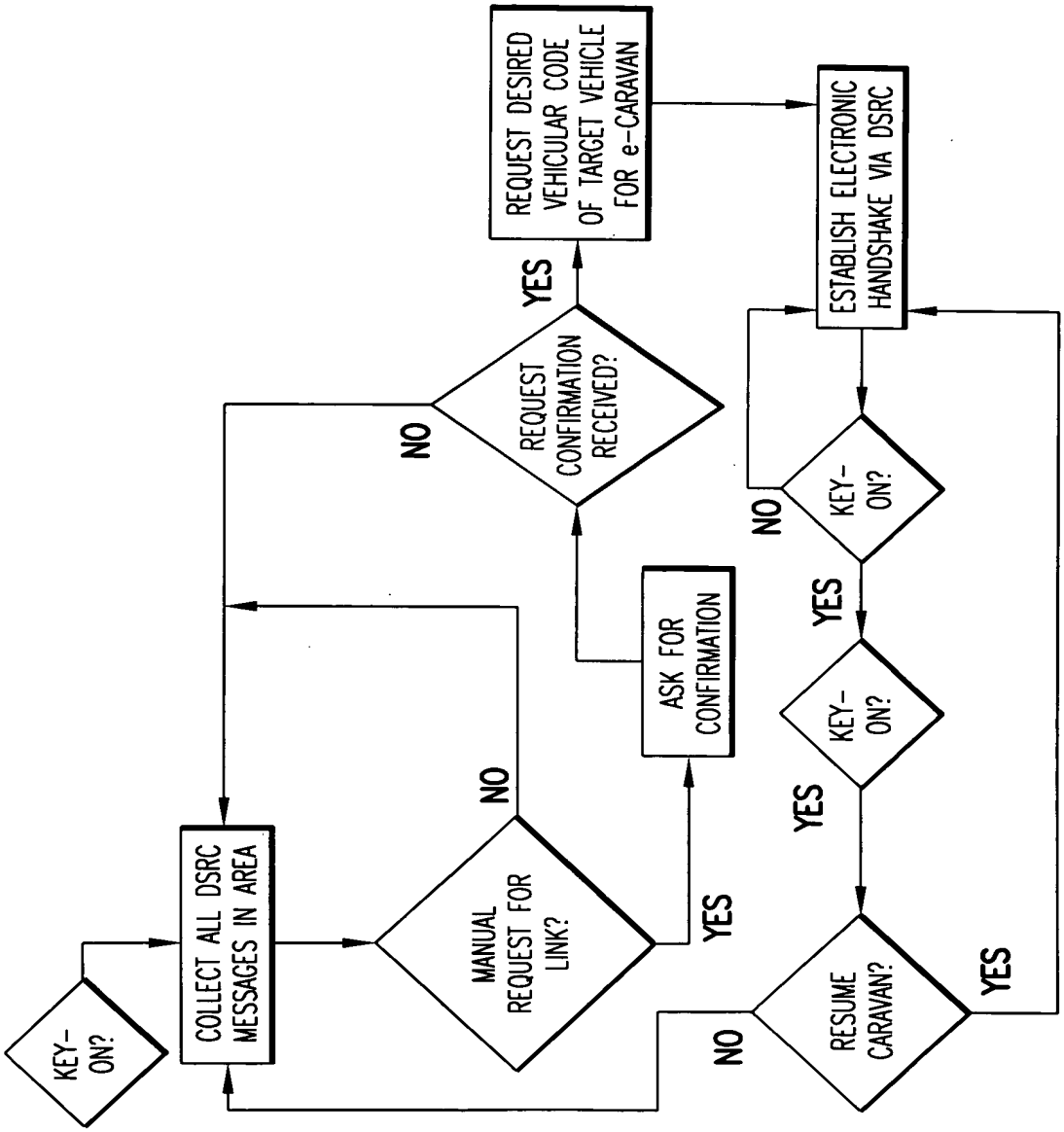
KEY-ON?
COLLECT ALL DSRC MESSAGES IN AREA
MANUAL REQUEST FOR LINK?
NO
YES
ASK FOR CONFIRMATION
REQUEST CONFIRMATION RECEIVED?
NO
YES
REQUEST DESIRED VEHICULAR CODE OF TARGET VEHICLE FOR e-CARAVAN
ESTABLISH ELECTRONIC HANDSHAKE VIA DSRC
KEY-ON?
NO
YES
KEY-ON?
YES
RESUME CARAVAN?
NO
YES

FIG.10

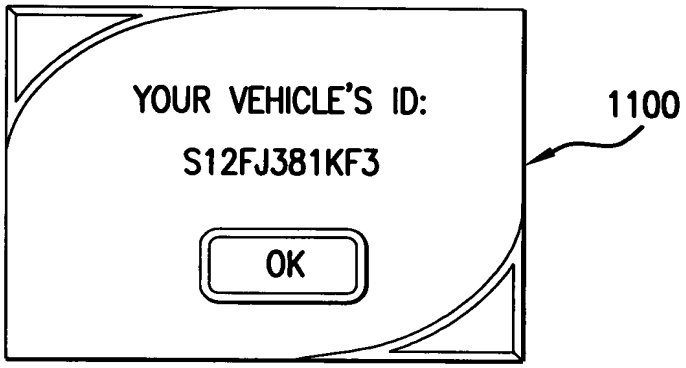

FIG. 11

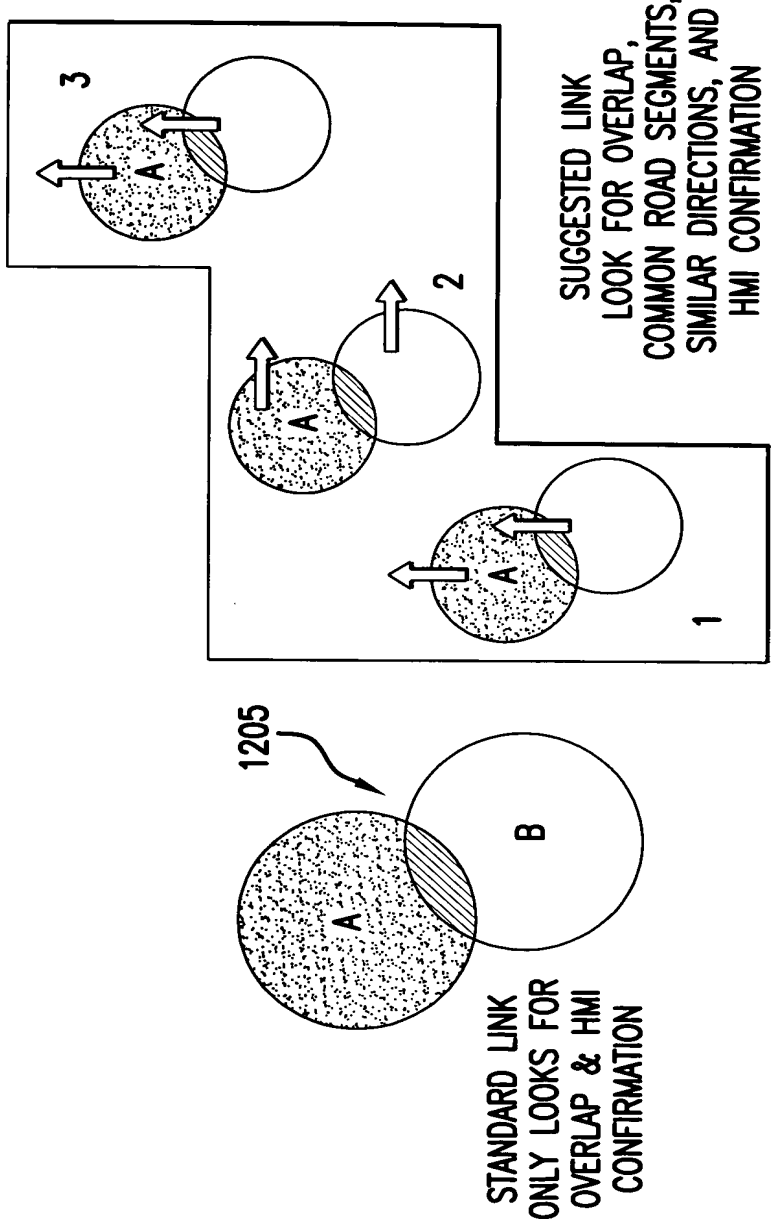
3
A
2
A
1
A
SUGGESTED LINK
LOOK FOR OVERLAP,
COMMON ROAD SEGMENTS,
SIMILAR DIRECTIONS, AND
HMI CONFIRMATION
1205
A
B
STANDARD LINK
ONLY LOOKS FOR
OVERLAP & HMI
CONFIRMATION

FIG.12

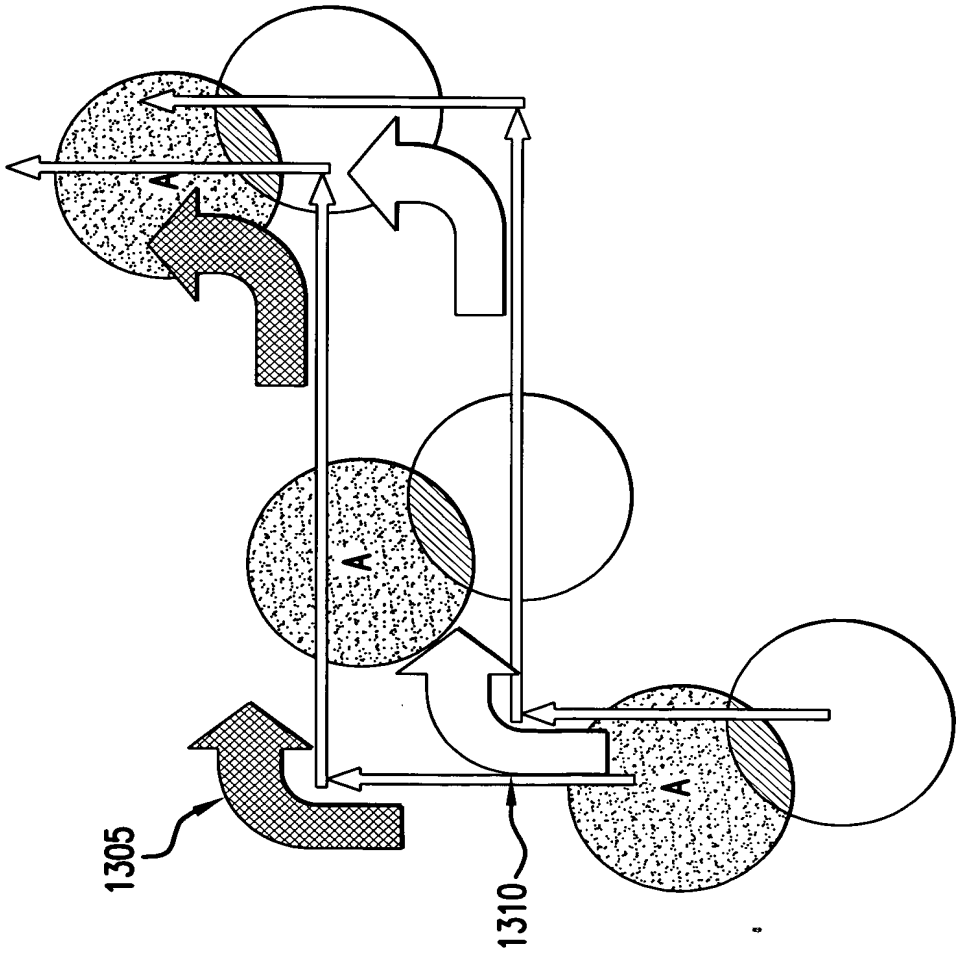

FIG.13